

WHAT IS CLAIMED IS:

1. A medical pump monitor system using a plurality of medical pumps to administer medical fluids and the like for a patient, monitoring flows of delivered fluids and alarm  
5 information of the medical pumps through cable communication and/or wireless communication,

wherein infusion circuitry creating means for setting/changing the connection conditions of infusion lines from the plurality of medical pumps, and  
10 administration passes and/or administration positions for the patient is provided, and it is made possible to display infusion circuitry data created in the infusion circuitry creating means on a monitor screen by operations by an operator of the medical pump monitor system.

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2. The pump monitor system according to claim 1, wherein reading means for reading an infusion circuitry diagram such as a handwritten diagram in the medical pump monitor system is provided, and it is made possible to make a choice  
20 by operator's operations on whether infusion circuitry information to be displayed during operation of the medical pump monitor system is information created using the infusion circuitry creating means or information created using said infusion circuitry diagram reading means.

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3. The medical pump monitor system according to claim 1, wherein said infusion circuitry creating means displays a

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sketch of the patient with respect to determination of the administration position for the patient, and inputting in the medical pump monitor system any position information in the sketch, thereby making a determination as

5 administration closest to the inputted position information.

4. The medical pump monitor system according to claim 1, wherein said infusion circuitry creating means further  
10 comprises determining means for making a check for the infusion line not suited to a practical method for transfusion.

5. The medical pump monitor system according to claim 1,  
15 wherein said fluid delivery circuitry creation means can select an optimal pump arrangement pattern from a plurality of pump arrangement patterns registered in advance.

6. The medical pump monitor system according to claim 1,  
20 wherein the determining means makes a determination on existence of loop-shaped lines in the infusion line, and gives an alarm to the operator if there exist a loop shaped line.

25 7. The medical pump monitor system according to claim 1, wherein the determining means determines whether two or more of the infusion lines run directly from the medical

pump, and gives an alarm to the operator if two or more of infusion lines run directly therefrom.

8. The medical pump monitor system according to claim 1,  
5 wherein the determining means determines whether the infusion line is ended at some midpoint without reaching the patient, and gives an alarm to the operator of the medical pump monitor system if the infusion line is ended at some midpoint.

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9. The medical pump monitor system according to claim 1,  
wherein the determining means determines whether the infusion line is necessarily formed towards at least one position of the patient from the medical pump, and gives  
15 an alarm to the operator if the infusion line is not necessarily formed towards at least one position of the patient from the medical pump.

10. The medical pump monitor system according to claim 1,  
20 wherein the determining means determines whether the infusion line inserted into a specified portion of the patient is inserted into the patient again, and gives an alarm to the operator if the infusion line inserted into a specified portion of the patient is inserted into the  
25 patient again.

11. The medical pump monitor system according to claim 1,  
wherein the determining means determines whether the  
infusion line from the operating medical pump is not  
connected to the patient, and gives an alarm to the operator  
5 if the infusion line from the operating medical pump is not  
connected to the patient.

12. The medical pump monitor system according to claim 1,  
wherein the monitor screen can display thereon real-time  
10 states or trends in arbitrary time ranges for at least any  
one of the amount of water, the urinary volume and the amount  
of electrolytes.

13. A controlling method for a medical pump monitor system  
15 using a plurality of medical pumps to administer medical  
fluids and the like for a patient, monitoring flows of  
delivered fluids and alarm information of the medical pumps  
through cable communication and/or wireless communication,  
comprising:

20 an infusion circuitry creating step of  
setting/changing the connection conditions of infusion  
lines from the plurality of medical pumps, and  
administration passes and/or administration positions for  
the patient; and

25 a step of making it possible to display infusion  
circuitry data created in the infusion circuitry creating

means on a monitor screen by operations by an operator of the medical pump monitor system.

14. A computer readable memory storing therein program  
5 codes for controlling a medical pump monitor system using a plurality of medical pumps to administer medical fluids and the like for a patient, monitoring flows of delivered fluids and alarm information of the medical pumps through cable communication and/or wireless communication,  
10 comprising program codes of:

an infusion circuitry creating step of  
setting/changing the connection conditions of infusion  
lines from the plurality of medical pumps, and  
administration passes and/or administration positions for  
15 the patient; and

a step of making it possible to display infusion  
circuitry data created in the infusion circuitry creating  
means on a monitor screen by operations by an operator of  
the medical pump monitor system.

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15. A real-time monitoring system performing real time  
communication with external apparatuses including one or  
more medical apparatuses, and controlling the external  
apparatuses and/or displaying the conditions of the  
25 external apparatuses, comprising:

communicating means for communicating with the  
external apparatuses;

displaying means for displaying the conditions of the external apparatuses;

storing means for storing one or more past communication data obtained by the communicating means;

5 comparing means for comparing currently communicated data with past data; and

controlling means for controlling contents to be displayed on the displaying means, based on signals from the comparing means,

10 wherein the comparing means reduces the amount of the data and/or eliminates the amount of the data for the amount of signals to be sent to the controlling means, in the case where the past data and the current data are identical to each other in comparison with the case where the past data  
15 and the current data are different from each other.

16. A real-time monitoring system performing real time communication with external apparatuses including one or more medical apparatuses, and controlling the external  
20 apparatuses and/or displaying the conditions of the external apparatuses, comprising:

communicating means for communicating with the external apparatuses;

displaying means for displaying the conditions of the  
25 external apparatuses;

storing means for storing one or more past communication data obtained by the communicating means;

comparing means for comparing currently communicated data with past data; and

controlling means for controlling contents to be displayed on the displaying means, based on signals from  
5 the comparing means,

wherein the comparing means selectively sends only a portion where the past data and the current data are different from each other, for the signals to be sent to the controlling means.

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17. The real-time monitoring system according to claim 15, wherein the communicating means, the comparing means and the storing means are unified, and are separated from the displaying means and the controlling means.

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18. The real-time monitoring system according to claim 15, wherein the external apparatuses is medical apparatuses comprising communicating means such as infusion pumps and urinary volume meters, and contents that are displayed on  
20 the displaying means are operation and stop information, flows, alarm conditions from apparatuses, information of administrated drugs, administration information and patient information.

25 19. A controlling method for a real-time monitoring system performing real time communication with external apparatuses including one or more medical apparatuses, and

controlling the external apparatuses and/or displaying the conditions of the external apparatuses, comprising steps of:

storing in storing means one or more past  
5 communication data obtained by communicating means for communicating with the external apparatuses;

comparing currently communicated data with past data by comparing means; and

controlling contents to be displayed on the displaying  
10 means, based on signals from the comparing means,

wherein said method comprises a step in which the comparing means performs control to reduce the amount of the data and/or eliminate the amount of the data for the amount of signals to be sent to the controlling means, in  
15 the case where the past data and the current data are identical to each other in comparison with the case where the past data and the current data are different from each other.

20 20. A controlling method for a real-time monitoring system performing real time communication with external apparatuses including one or more medical apparatuses, and controlling the external apparatuses and/or displaying the conditions of the external apparatuses, comprising steps  
25 of:



storing in storing means one or more past  
communication data obtained by communicating means for  
communicating with the external apparatuses;

5 comparing currently communicated data with past data  
by comparing means; and

controlling contents to be displayed on the displaying  
means, based on signals from the comparing means,

wherein said method comprises a step in which the  
comparing means selectively sends only a portion where the  
10 past data and the current data are different from each other,  
for the signals to be sent to the controlling means.

21. A computer readable record medium storing therein  
program codes of a controlling method for a real-time  
15 monitoring system performing real time communication with  
external apparatuses including one or more medical  
apparatuses, and controlling the external apparatuses  
and/or displaying the conditions of the external  
apparatuses, comprising program codes of steps of:

20 storing in storing means one or more past  
communication data obtained by communicating means for  
communicating with the external apparatuses;

comparing currently communicated data with past data  
by comparing means; and

25 controlling contents to be displayed on the displaying  
means, based on signals from the comparing means,

wherein said computer readable record medium  
comprises a program code of a controlling step in which the  
comparing means performs control to reduce the amount of  
the data and/or eliminate the amount of the data for the  
5 amount of signals to be sent to the controlling means, in  
the case where the past data and the current data are  
identical to each other in comparison with the case where  
the past data and the current data are different from each  
other.

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22. A computer readable record medium storing therein  
program codes of a controlling method for a real-time  
monitoring system performing real time communication with  
external apparatuses including one or more medical  
15 apparatuses, and controlling the external apparatuses  
and/or displaying the conditions of the external  
apparatuses, comprising program codes of steps of:

storing in storing means one or more past  
communication data obtained by communicating means for  
20 communicating with the external apparatuses;

comparing currently communicated data with past data  
by comparing means; and

controlling contents to be displayed on the displaying  
means, based on signals from the comparing means,

25 wherein said computer readable record medium  
comprises a program code of a step in which the comparing  
means selectively sends only a portion where the past data

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and the current data are different from each other, for the  
signals to be sent to the controlling means.